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NRO REVIEW COMPLETED

22 October 1973

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MEMORANDUM

SUBJECT : Photographic Capabilities to Monitor
Middle East Cease-Fire

This memorandum reviews options and the alternative capabilities available for photographic reconnaissance to monitor a Middle East cease-fire. It assumes that the monitoring requirement will be to verify that no actions are being taken by either side to alter the relationship of the combatant forces in the positions held on October 22, or as otherwise agreed.

SUMMARY EVALUATION

1. Experience with the initial GIANT REACH mission on 13 October, and with monitoring of the Suez cease-fire zone in 1970, indicates that photography will be limited, at best, in its ability to provide monitoring data unless a base line exists and the cease-fire terms are explicit and mutuality and uniformly understood by both sides.

2. SR-71 and U-2R reconnaissance aircraft are the only systems available to the US which are capable of providing regular photographic coverage of cease-fire lines and related logistical and support areas.

- a. Baseline coverage of the areas included in an agreement will be needed as close to the effective time of the agreement as possible.
- b. While photography from SR-71 or U-2R systems will be adequate to verify that no major changes are taking place in the disposition of opposing forces, these systems cannot provide warning of rapid

changes, evidence of activities in rear areas, or preparations for limited scale actions.

- c. The SR-71 is capable of flying in either a hostile or permissive environment.
- d. The U-2R cannot operate effectively in a hostile SA-2 environment and would therefore, require mutual acceptance for it to be effective.

3. If photographic assets are to be used to monitor a cease-fire on a sustained basis, forward base rights will need to be negotiated and advanced logistical and support arrangements will have to be provided.

4. The capability of photography to provide essential monitoring data is sensitive to the types of activities governed by provisions of an agreement--for example, bans on new equipment by type; changes in manpower, substitution or movement of equipment; construction; etc.--and the clarity of the demarcation line between sides. Some of these activities cannot be monitored solely by photography. Until the provisions of an agreement are known a complete evaluation of photographic capabilities cannot be made.

DISCUSSION

Geographic Areas Involved

5. Two areas of contest (Suez, and Golan Heights) are assumed to be involved in any cease-fire agreement. Both, at this point in time are rather extensive and ill-defined. In addition areas of interest to the rear of the fighting fronts will need to be included.



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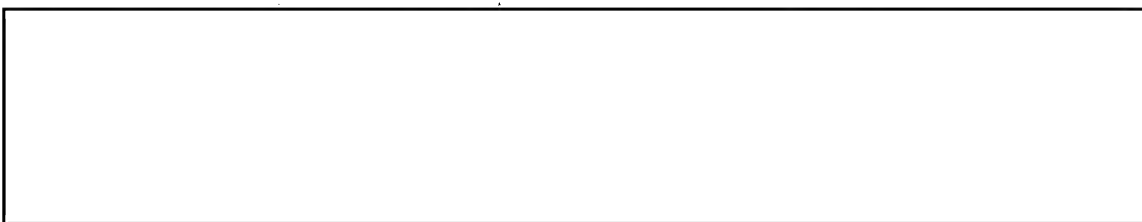
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north to Suez in the south. Egyptian troop concentrations beyond this penetration are also of concern. This area could only be monitored by an overflight--peripheral missions flown to the east of Egyptian dispositions along the canal would not provide coverage adequate to monitor activity there. In addition, the absence of well defined geographic features in this desert area will make the exact fixing of a cease-fire line difficult if not impossible.



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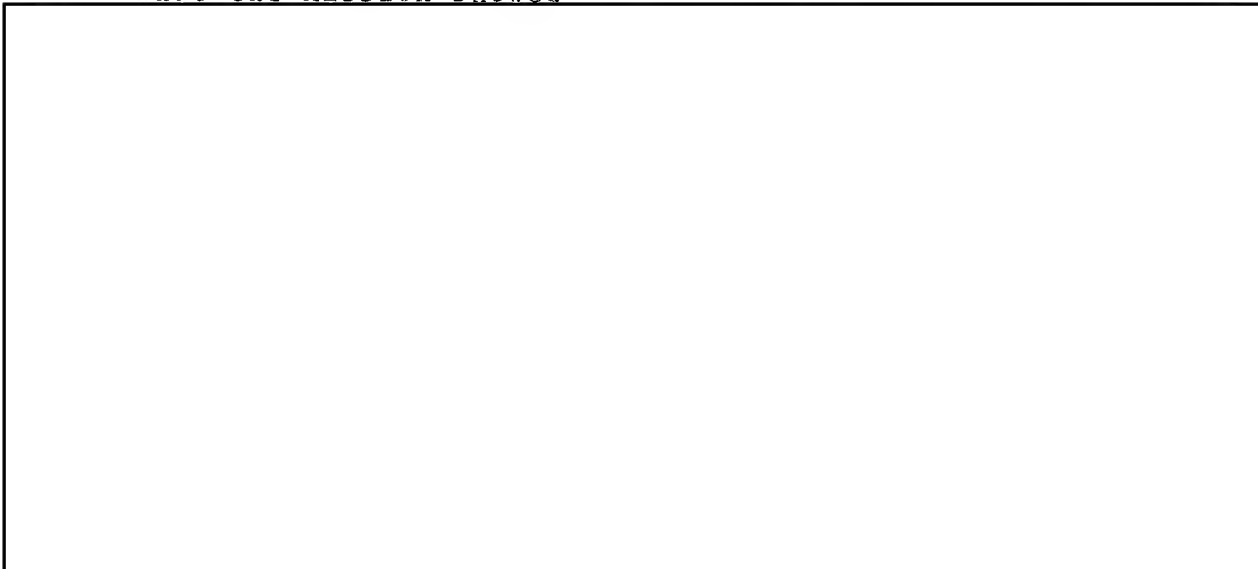
8. In both cases, the establishment by photographic means of actual cease-fire lines will be difficult.

Assessment of GIANT REACH Mission Over the Middle East

9. The SR-71 GIANT REACH Mission on 13 October provided extensive Middle East coverage, with summary information from its film available some 48 hours after the overflight. Its coverage (see map) is typical of what would be expected if used in monitoring a cease-fire.

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What the Mission Showed



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SR-71 Options

17. Coverage of a Middle East cease-fire zone could be best accomplished by SAC's SR-71s, two of which are currently at Griffiss AFB, New York. These aircraft are currently on a 24-hour response time status, but could go back to a 12 hour status. (This timing is mostly a matter of crew availability - on 12 hours status, the crew is on base and resting; on a 24 hour status, they are not so required). To be added from the 12 hours would be the optimum take-off times (0300-0700Z) which place the SR-71 over the target area in best light. A decision to execute a mission, if made late in the afternoon or early evening, might not allow enough time for a take-off the next morning.

18. SAC believes that a mission with all cameras (optical bar for area coverage, technical objectives for spot coverage) could be accomplished every 48 hours (only one optical bar camera is currently available at Griffiss). Also, it takes a minimum of 36 hours to get the tankers up, to their refueling points, land to top off again and back in place at Torrejon, Spain. Tanker crew rest is also important so SAC would prefer missions to be flown no more frequent than 72 hours apart.

19. Several pre-planned tracks covering the major targets and conflict areas have been developed and the necessary navigational and camera operation data are on hand at Griffiss. The necessary tankers are deployed and loaded with JP-7. Weather in one of the refueling areas could delay a mission. With no further foreign constraints on these missions, however, all that is needed is the word to go.

20. Based on the above and on the performance of the first mission on 13 October, a mission (if SAC is ordered back on a 12 hours status, and if the decision is made by about noon, EDT) could have an SR-71 over the target area by noon (Mid-East time) the following day. After a 11-12 hour mission, the mission film could be at Eastman Kodak at about 4 PM EDT, about four hours after landing, processed and delivered to NPIC by noon the following day, the first readout becoming available some 4 to 5 hours later (about 4 to 5 PM EDT), with all highlights completed by about 9 AM the following morning. Or, summarizing, first readout could be available about 50 hours after the decision to go was communicated to the operators.

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21. One or two SR-71 missions operating from Griffiss AFB should be able to obtain photography adequate to establish an initial baseline. If the environment dictated continued SR-71 overflights, a forward operating base would be desirable. Several such bases are adequate to sustain SR-71 operations. These include: [redacted] Zaragosa, Spain; Souda Bay, Crete; or Sigonella, Sicily. The agreement of foreign governments to operate from these bases would be required. The film from missions operating from these bases could be expedited to the US for processing and readout or, alternatively, flown to Wiesbaden, Germany. In the latter case, initial readout would become available some 20 to 25 hours after the SR-71 landed.

U-2 IDEALIST Aircraft

Political Considerations

22. Utilization of the U-2 in this area is highly sensitive and diplomatic approvals of the governments involved would be required prior to operational missions. The following items are considered significant:

- a. Flights to provide coverage of both sides of the Suez Canal would require both Israeli and Arab approval. Should either Israel or Egypt not concur in this overflight, modified coverage from the air space of the concurring nation would be possible.

b. [redacted]

23. Photographic coverage can be provided in the area affected by the cease-fire from several Mediterranean areas. Specifically, operations could be conducted from Italy (Brindisi, Sigonella), Greece (Elefsis), Crete (Souda Bay), or Cyprus (Akrotiri). Another option could be operation from Tel Aviv proper. Operation from Spain would not allow desired altitude of 69,000 feet in target area. Incirlik AB,

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Turkey would also be a suitable base for operations. All of the foregoing options would require approval by third party governments prior to utilization of their territory as a forward base for operational sorties.

Vulnerability

24. In general, areas of intelligence interest in the UAR and Syria are assumed to be SAM defended. Present hostilities have indicated a nonstatic defense. A well developed early warning and GCI radar network exists. A U-2R overflight would be identified and tracked accurately. Presently employed SA-2 defenses would constitute a valid

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Operational Concept

25. Operational sorties flown from an advanced base in the mid or eastern Mediterranean area (exclusive of Spain) would allow suitable altitude capability and desired coverage.

26. Operational sorties can be flown from our present deployed position [REDACTED] However, a return cannot be accomplished and landing must be accomplished at a forward base. After refueling and download of take, the aircraft would return [REDACTED]

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27. The "H" camera, "B" camera and IRIS are available configurations that can be utilized dependent upon the physical location of the target area and political restraints or overflight prohibitions. The "H" and "B" cameras are the most capable of providing the resolution required for photographic interpretation.

28. If two aircraft were deployed to the operating location, a sortie rate of one per day can be maintained for an indefinite period. The specific sortie rate would be an influencing factor in the amount of the logistic support required.

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Logistics

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The unit fly away kit is sufficient to maintain an operational capability until normal logistic channels can be brought into use for the support of the operating location. Normal military airlift channels would be used to transport supplies to the European theater. Intratheater [REDACTED] airlift would be used to support the operating base. Sufficient fuel reserves are prepositioned at Torrejon AB, Spain [REDACTED] for the initial phases of this operation.

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30. Should the decision be made to process the take at OPIC-E, the take could be delivered to Wiesbaden from Akrotiri in approximately 8 hours [REDACTED]

[REDACTED] Akrotiri to Eastman Kodak, Rochester, New York for processing would require approximately 18 hours. Delivery of the finished product to the Intelligence Community would then be dependent upon processing and duping times involved plus the delivery time from OPIC-E to the CONUS should it be utilized or alternately from Eastman Kodak. This schedule can only be maintained by utilization of dedicated aircraft on a continuing basis. Utilization of normal MAC channel traffic could generate an unknown delay.

Overall Reconnaissance Environment

31. The utility and effectiveness of the aircraft platforms will be affected by the nature of the reconnaissance environment which is established. We have considered three general alternative assumptions:

- a. Permissive. If the US and USSR agree on the need to monitor cease-fire provisions by means of photography and the Arabs and Israelis agree to not interfere, then either the SR-71 or the U-2R singly or in combination would be effective in providing baseline and continuing photographic coverage. Forward basing would be required for sustained operations.
- b. Partial. If the US and USSR agree on the need for photography, and the Israelis agree

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to overflight of Israeli-held territory but the Arabs do not agree, it will be difficult to monitor an irregular cease-fire line such as that related to presently held positions. If in the future a demarcation line is established which follows natural divisions with a demilitarized zone between sides, then such a zone could be monitored from one side without overflying the other.

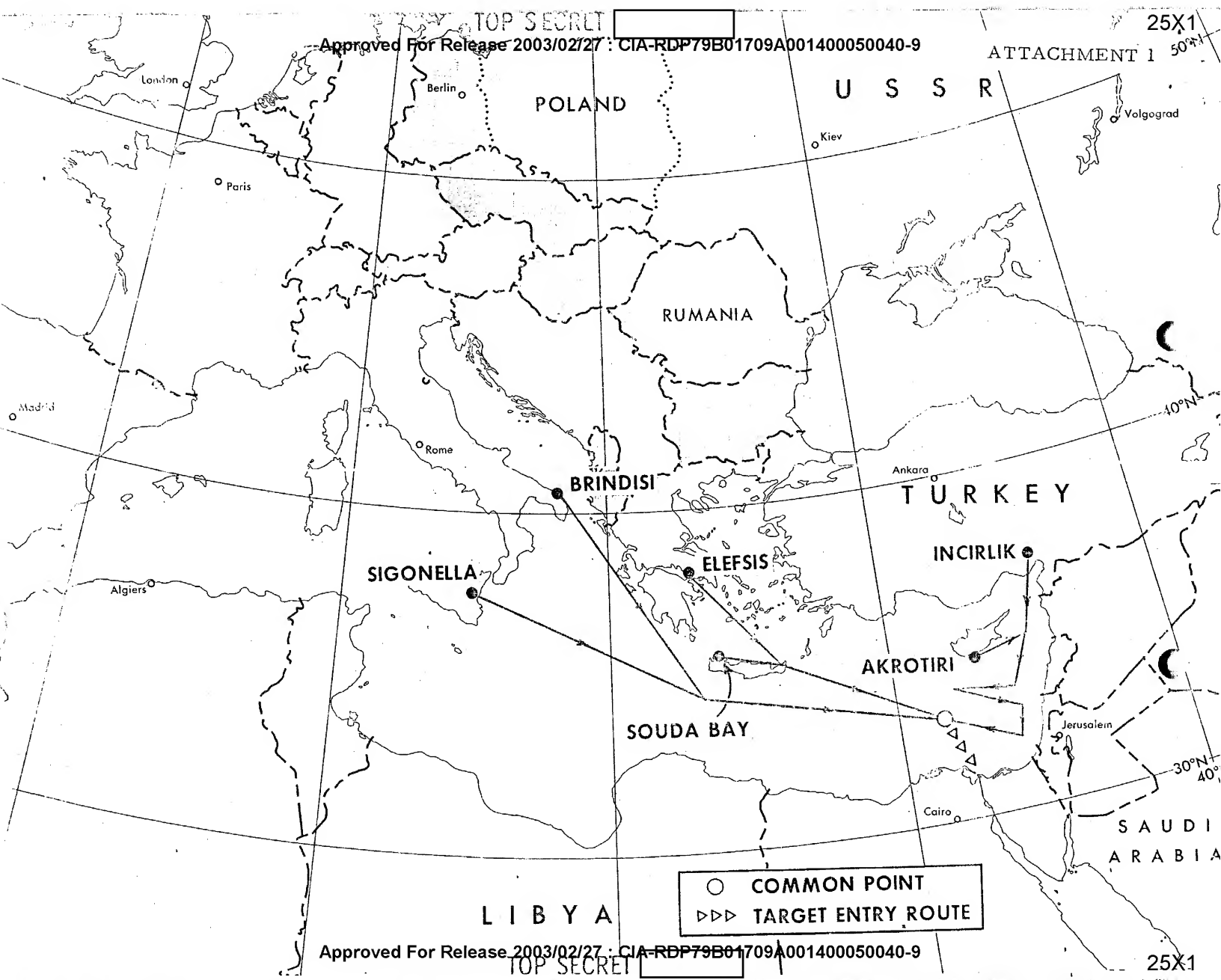
- c. Hostile. If the US and USSR agree on the need to monitor by photography but the Arabs and Israelis do not, then the SR-71 would be the only aircraft which could safely operate. While technically able to overfly, the missions would be lengthy and there would continue to be some risks associated with them.

If photographic flights are performed in a permissive environment, there will be related considerations concerning the handling and dissemination of the derived information to foreign governments (if any) and the mechanisms for utilizing this information in subsequent negotiations and discussions. These considerations have not yet been evaluated in detail.

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